

R E M A R K S

Claim 1 is amended to recite the proviso "with the proviso that said substrate is not a terpene". Terpenes are expressly mentioned in the disclosure herein, for instance in lines 11-15 on page 26. No new matter is added by this Amendment. With this Amendment, claims 1-3 and 18 remain in the application.

Claims 1-3 and 18 had been rejected under 35 U.S.C. 102(b) as being anticipated by the Foricher patent. In order to clarify the difference between the present invention and Foricher, claim 1 is amended to exclude terpenes (including the isoprenoid compounds of Foricher) from the substrate.

Foricher discloses a process for the catalytic oxidation of an isoprenoid which has at least one allylic hydrogen atom, which process comprises oxidizing the isoprenoid with oxygen or a gas which contains oxygen in an inert solvent, in the absence of a basic compound or a compound with an acidic hydrogen and in the presence of an N-hydroxydicarboxylic acid imide of a specified formula, to produce a hydroperoxide. Concerning the separation of the catalyst (the N-hydroxydicarboxylic acid imide), Foricher teaches that, after the oxidation, the catalyst can be separated from the reaction mixture with aid of a non-polar solvent, and can be reused. The reaction mixture can be concentrated, then treated with a non-polar solvent and the catalyst can be crystallized out. The

solvent which is used in the oxidation is removed completely by evaporation and the residue is taken up in a non-polar solvent, in which the catalyst remains behind as an insoluble residue.

In Foricher, the oxidation products are taught to be separable from the reaction mixture by known methods. Column 5, lines 3-4. If desired, hydroperoxides obtained can be further reacted to give alcohols or carbonyl compounds. Column 5, lines 5-6. The reduction of the hydroperoxides to alcohols can be carried out according to methods known in the art. Column 5, lines 9-10. Primary and secondary hydroperoxides can be converted into the corresponding carbonyl compounds by water cleavage. Column 5, lines 15-17.

NOVELTY. Inasmuch as the Foricher substrates are now expressly excluded from the substrates of the present invention, the present invention is clearly novel with respect to Foricher.

UNOBVIOUSNESS. Also, the present invention is unobvious over Foricher. As is apparent from the substrate exemplification of the reference (column 2, lines 47-53), since the substrate therein is expressly limited to isoprenoids having at least one allylic hydrogen atom, substrates other than isoprenoids having at least one allylic hydrogen atom are not predictable from the cited reference.

In summary, the presently claimed preferred embodiments of Applicants' invention do not extend to the oxidation of isoprenoids, or indeed any terpenes. Instead, the presently claimed invention is concerned with the oxidation of

substrates that are cycloalkanes, polycycloalkanes, alicyclic and aromatic alcohols, and aromatic hydrocarbons containing a methyl group or a methylene group. The Foricher reference neither teaches nor suggests the presently claimed invention.

Since the present invention differs remarkably from Foricher with respect not only to the substrate but also to reaction mechanisms, the present invention is both novel and unobvious over the Foricher disclosure.

UNEXPECTED BENEFITS. Moreover, the present invention provides unexpected advantages. As is apparent from the description "the allylic oxidation of isoprenoids ... leads to hydroperoxides" (column 4, lines 63-64), the oxidation product of the Foricher substrate needs further reduction or water cleavage of hydroperoxide to give a useful or final product, such as alcohols, ketones, or acids. In contrast, as is apparent from the Examples herein, alcohols, ketones, or acids are directly formed by a single reaction in the present invention.

The Examiner is invited to contact Richard Gallagher (Reg. No. 28,781) at (703) 205-8008 with any questions.

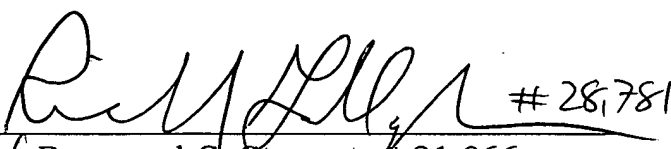
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Account No. 02-2448 for any additional fee required under 37 CFR 1.16 or 1.17;
particularly, extension of time fees.

Respectfully submitted,

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